**Database Security Using Encryption**

**Abstract:**

Security of Data is the most important task intoday’s world. Over the years various encryption schemes have been developed in order to protect the database from various attacks by the intruders. This paper discusses the importance of database encryption and makes an in-depth review of various database encryption techniques and compare them on basis of their merits and demerits.

The need to protect the database is growing especially in this age of e-commerce. Many conventional database security systems are bugged with holes that can be used by attackers to penetrate the database. No matter what degree of security is put in place, sensitive data in database are still vulnerable to attack. To avoid the risk posed by this threat, database encryption has been recommended. However, encrypting all of database item greatly degrades the performance of the database system. As an optimal solution this paper presents a database encryption scheme that provides maximum security, whilst limiting the added time cost of encryption and decryption.

A key way to protect the data within one's database is to use [database encryption](https://www.sciencedirect.com/topics/computer-science/database-encryption). [Data encryption](https://www.sciencedirect.com/topics/computer-science/data-encryption) can be done at many different points in the application depending on the goal that one is trying to meet. It is important that there are so many options as to how one can encrypt the database. However, encrypting all of database item greatly degrades the performance of the database system. As an optimal solution this paper presents a database encryption scheme that provides maximum security, whilst limiting the added time cost of encryption and decryption.